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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,948	09/18/2003	John D. Tanner	9256	6529

27752 7590 07/09/2007
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EXAMINER

KURTZ, BENJAMIN M

ART UNIT PAPER NUMBER

1723

MAIL DATE DELIVERY MODE

07/09/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/665,948

Applicant(s)

TANNER ET AL.

Examiner

Benjamin Kurtz

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 42-60, 62-66 and 68-73 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 42-60, 62-66 and 68-73 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>6/07</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

1. Claims 63 and 64 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 63 recites that the pressure vessel of the treatment device is in untreated fluid communication with the first housing and not in untreated fluid communication with the second housing. Claim 60 recites the second housing surrounds the first housing separating the first housing from the inlet passageway where untreated fluid enters the device. The applicant has not shown how the first housing can be in fluid communication with the untreated fluid and also be separated from the untreated fluid. For examination purposes the second housing is assumed to be in untreated fluid communication with the pressure vessel and the first housing is not in untreated fluid communication with the pressure vessel.

Claim 64 is rejected as depending from claim 63.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

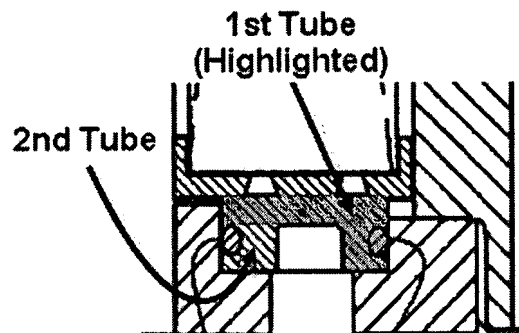
(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 42, 43, 48, 69 and 70 are rejected under 35 U.S.C. 102(b) as being anticipated by Guichaoua et al. US 6 308 836 B1.

Regarding claim 42, Guichaoua teaches a liquid treatment cartridge capable of sealingly and releasably engaging a liquid treatment device, the cartridge comprising: a housing (5), an inlet (12), an outlet (22) and a treatment media (4) in fluid communication with the inlet and the outlet, a first tube (the portion containing o-ring (52)) comprising an inside surface, an outside surface a proximal end and a distal end, wherein the outside surface comprises a sealing surface (o-ring (53)), a second tube (the portion containing o-ring (53)) comprising an inside surface, an outside surface, a proximal end, and a distal end, wherein the outside surface comprises a sealing surface (o-ring (52)), wherein the first tube extends from the housing and surrounds the outlet port forming a treated liquid passageway wherein the second tube surrounds the first tube such that a gap (51) is formed between the first and second tubes and an outer surface of the housing and wherein the gap is disposed between the inlet and the outlet (fig. 1).

Regarding claims 43 and 48, Guichaoua further teaches the sealing surfaces of the first and second tubes are coplanar (fig. 1); and the second tube extends from the first tube and the first tube extends from the liquid treatment cartridge housing (fig. 1, see below).



Regarding claim 69, Guichaoua teaches a liquid treatment device capable of sealingly and releasably engaging a liquid treatment cartridge the cartridge comprising a first tube (the portion containing o-ring (52)) having an inside surface forming a first water treatment passageway and a second tube (the portion containing o-ring (53)) surrounding the first tube, the device comprising: an outlet housing (the portion of (1) and (10) adjacent to o-ring (52)) engaging the first tube of the cartridge the outlet housing comprising an inside surface and an outside surface, and comprising a sealing surface, a vent housing (the portion of (1) adjacent to o-ring (53)) engaging the second tube of the cartridge the vent housing comprising an inside surface and an outside surface, and comprising a sealing surface, an inlet (12), wherein a portion of the inside surface of the outlet housing forms and defines a second treated liquid outlet passageway (the inside surface of (10)) in fluid communication with the first treated water passageway, wherein a portion of the outside surface of the outlet housing and a portion of the inside surface of the vent housing forms and defines a vent (7) and wherein a portion the vent housing surrounds a portion of the outlet housing, wherein when the device is sealingly engaged to a cartridge a gap is disposed between the inlet

and the outlet passageway and enclosed and sealed between the sealed engagement of the outlet housing and a first tube of the cartridge and the sealed engagement of the vent housing and a second tube of the cartridge such that liquid is prevented from flowing into the gap (fig. 1).

Regarding claim 70, Guichaoua teaches a liquid treatment system comprising: a water treatment cartridge (3) capable of sealingly and releasably engaging a liquid treatment device, the cartridge comprising: a housing (5), an inlet, an outlet, and a treatment media (4) the media in fluid communication with the inlet and the outlet, a first tube (the portion containing o-ring (52)) comprising an inside and outside surface, a proximal and distal end and a sealing surface (o-ring (52)), a second tube (the portion containing o-ring (53)) comprising an inside and outside surface, a proximal and distal end and a sealing surface (o-ring (53)), wherein the first tube extends from the housing and surrounds the outlet port and the second tube surrounds the first tube; a liquid treatment device for sealingly and releasably engaging the cartridge, the device comprising: an outlet housing (the portion of (1) and (10) adjacent to o-ring (52)) having an inside and outside surface and a sealing surface, and a vent housing (the portion of (1) adjacent to o-ring (53)) having an inside and outside surface and sealing surface, wherein a portion of the inside surface of the outlet housing forms and defines a treated liquid outlet passageway (22) wherein a portion of the outside surface of the outlet housing and a portion of the inside surface of the vent housing forms and defines a vent (7), wherein the first tube sealingly engages the outlet housing to form a first seal and the second tube sealingly engages the vent housing to form a second seal and such

Art Unit: 1723

that the inside surface of the first tube and the inside surface of the outlet housing are in fluid communication, and such that the outside surface of the first tube and the inside surface of the vent housing are in fluid communication, wherein a gap is disposed between the inlet and the outlet passageway and sealingly enclosed between the first and second seals such that the first and second seals do not permit a liquid to flow into the gap from the inlet to the outlet passageway (fig. 1).

3. Claims 42, 43 and 45 are rejected under 35 U.S.C. 102(a) as being anticipated by Masaaki JP 2003053336.

Regarding claim 42 Masaaki teaches a liquid treatment cartridge capable of sealingly and releasably engaging a liquid treatment device, the cartridge comprising: a housing (18), an inlet (13), an outlet (14) and a treatment media (15) in fluid communication with the inlet and the outlet, a first tube (the portion containing o-ring (24)) comprising an inside surface, an outside surface a proximal end and a distal end, wherein the outside surface comprises a sealing surface (o-ring (24)), a second tube (the portion containing (21) comprising an inside surface, an outside surface, a proximal end, and a distal end, wherein the outside surface comprises a sealing surface (threading (21)), wherein the first tube extends from the housing and surrounds the outlet port forming a treated liquid passageway wherein the second tube surrounds the first tube such that a gap is formed between the first and second tubes and an outer surface of the housing and wherein the gap is disposed between the inlet and the outlet (fig. 1).

Regarding claims 43 and 45, Masaaki further teaches the sealing surfaces of the first and second tubes are coplanar (fig. 1); and the distal end of the second tube extends from the cartridge housing a greater distance than said distal end of the first tube (fig. 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 47, 50, 54, 57, 59, 60, 62-66, 68 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guichaoua '836.

Regarding claim 50, Guichaoua teaches a liquid treatment cartridge capable of sealingly and releasably engaging a liquid treatment device, the cartridge comprising: a housing (5), an inlet (12), an outlet (22) and a treatment media (4) in fluid communication with the inlet and the outlet, a first tube (the portion containing o-ring (52)) comprising an inside surface, an outside surface a proximal end and a distal end, wherein the outside surface comprises a sealing surface (o-ring (52)), a second tube (the portion containing o-ring (53) comprising an inside surface, an outside surface, a proximal end, and a distal end, wherein the first tube extends from the housing and surrounds the outlet port such that said inside surface of said first tube forms a treated fluid passageway and the second tube surrounds the first tube forming a gap (51) disposed between said inlet and said outlet ports (fig. 1). Guichaoua teaches the

outside surface of the second tube is a sealing surface (o-ring (53)) but does not teach the inside surface of the second tube being a sealing surface. Modifying the cartridge to have the sealing surface on the inside surface instead of the outside surface is not patentable because [S]hifting the position of an element is unpatentable if shifting the position of the element would not modify the operation of the device, *In re Japikse*, 86 USPQ 70 (1950).

Regarding claim 57, Guichaoua teaches a liquid treatment cartridge capable of sealingly and releasably engaging a liquid treatment device, the cartridge comprising: a housing (5), an inlet (12), an outlet (22) and a treatment media (4) in fluid communication with the inlet and the outlet, a first tube (the portion containing o-ring (52)) comprising an inside surface, an outside surface a proximal end and a distal end, wherein the inside surface is a sealing surface (o-ring (52)), a second tube (the portion containing o-ring (53)) comprising an inside surface, an outside surface, a proximal end, and a distal end, wherein the first tube extends from the housing and surrounds the outlet port wherein the second tube surrounds the first tube and the sealing surfaces extend from the cartridge about the same distance, wherein an enclosed gap (51) is formed between the sealing surface of the first tube and the sealing surface of the second tube disposed between the inlet and the outlet and sealed such that no liquid may flow into the gap when the cartridge is sealingly engaged to a liquid treatment device (fig. 1). Guichaoua teaches the outside surface of the second tube is a sealing surface (o-ring (53)) but does not teach the inside surface of the second tube being a sealing surface. Modifying the cartridge to have the sealing surface on the inside

surface instead of the outside surface is not patentable because [S]hifting the position of an element is unpatentable if shifting the position of the element would not modify the operation of the device, *In re Japikse*, 86 USPQ 70 (1950).

Regarding claim 60, Guichaoua teaches a liquid treatment device for sealingly and releasably engaging a liquid treatment cartridge, the device comprising: a first housing (the portion of (1) adjacent to o-ring (52)) comprising an inside surface, an outside surface, and a sealing surface along the outside surface of the first housing, a second housing (the portion of (1) adjacent to o-ring (53)) comprising an inside surface, an outside surface, an inlet (12), wherein the second housing surrounds the first housing to form a gap (7) in the area between the outside surface of the first housing and the inside surface of the second housing and the sealing surfaces of the first and second housings, and wherein the gap is disposed between the inlet and the outlet passageway and is completely sealed to prevent liquid from flowing into the gap when the treatment device is sealingly engaged to a liquid treatment cartridge (fig. 1).

Guichaoua teaches the inside surface of the second housing is a sealing surface (part adjacent o-ring (53)) but does not teach the outside surface of the second housing being a sealing surface. Modifying the device to have the sealing surface on the outside surface instead of the inside surface is not patentable because [S]hifting the position of an element is unpatentable if shifting the position of the element would not modify the operation of the device, *In re Japikse*, 86 USPQ 70 (1950).

Regarding claims 62-65 and 73, Guichaoua further teaches the area between the outside surface of the first housing and the inside surface of the second housing

functions as a vent (fig. 1, col. 4, lines 60-63); the water treatment device further comprises a pressure vessel (2) wherein the pressure vessel is sealingly fitted to the water treatment device such that the vessel is in untreated fluid communication with the first housing but not in untreated fluid communication with the second housing when the cartridge (3) is engaged to the treatment device (fig. 1); the pressure vessel (2) is threadably fitted to treatment device (col. 4, lines 33-34); the first and second housings are tubes (fig. 1); and the area between the outside surface of the first housing and the inside surface of the second housing does not function as an untreated water inlet passageway (fig. 1).

Regarding claim 68, Guichaoua further teaches the first and second housing parts having sealing surfaces but does not teach the surfaces being o-ring. Moving the o-rings from the cartridge to the housing is not patentable because, [S]hifting the position of an element is unpatentable if shifting the position of the element would not modify the operation of the device, *In re Japikse*, 86 USPQ 70 (1950).

Regarding claims 47, 54 and 59, Guichaoua teaches the cartridge but does not disclose the diameter of the inside surface of the second tube or the diameter of the outside surface of the first tube. [W]here the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device, *Gardner v. TEC Systems, Inc.*, 220 USPQ 777 (1984).

Art Unit: 1723

Regarding claim 66, Guichaoua discloses the water treatment device where the first and second housings are concentric but does not disclose the first housing extending a greater distance than the second housing. It would have been an obvious matter of design choice to one having ordinary skill in the art at the time the invention was made to extend the first housing at any distance farther than the second housing so long as a proper seal can be maintained between the device and a cartridge.

5. Claims 44, 45, 51 and 71 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guichaoua (836) in view of Gundrum et al. US 5 891 334.

Regarding claim 44, Guichaoua further teaches the inside surface of the second tube is a sealing surface (o-ring (52)) but does not teach a portion of the inside surface of the first tube being a sealing surface. Gundrum teaches a first tube (27) with a portion of the inside surface of the tube (27) is a sealing surface (threads) (fig. 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the inside sealing surface of Gundrum in the cartridge of Guichaoua because the sealing surface allows the housing to be demountably and sealably attached to the end cap (col. 3, lines 4-5).

Regarding claims 45 and 52, Guichaoua further teaches the water treatment cartridge but does not disclose the distal end of the second tube extending from the cartridge a greater distance than the distal end of the first tube or the sealing surface of the second tube extending a greater distance than the sealing surface of the first tube. Gundrum teaches a second tube (27) having a sealing surface (threads) extending a greater distance from a cartridge (10,11) than a first tube (33) having a sealing surface

(o-ring (42)) (fig. 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the longer tube of Gundrum with the cartridge of Guichaoua because the longer tube provides more threads and therefore a tighter more secure engagement.

Regarding claim 51, Guichaoua further teaches a portion of the inside surface of the first tube is a sealing surface but does not teach a portion of the inside surface of the second tube being a sealing surface. Gundrum teaches a second tube (27) with a portion of the inside surface of the tube (27) is a sealing surface (threads) (fig. 1-2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the inside sealing surface of Gundrum in the cartridge of Guichaoua because the sealing surface allows the housing to be demountably and sealably attached to the end cap (col. 3, lines 4-5).

Regarding claim 71, Guichaoua further teaches the water treatment system wherein one sealing surface of the outlet housing is an o-ring (52) oriented around the outside surface of the outlet housing but does not disclose the vent housing having an o-ring oriented around the outside surface of the vent housing. Gundrum teaches a housing (28) with a sealing surface of an o-ring (43) oriented around the outside surface of the housing (fig. 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the o-ring of Gundrum in the system of Guichaoua because it is well known in the art that an o-ring provides a fluid tight seal.

6. Claims 46, 49, 53, 55, 58 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Guichaoua (836) in view of Reid et al. US 5 591 332.

Regarding claims 46, 53 and 58, Guichaoua teaches the cartridge of claims 42, 50 and 57 but does not teach the first and second tubes are without o-rings. Reid teaches first (132) and second (134) tubes without o-rings (fig. 2-3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the o-rings be a part of the treatment device and not the cartridge so that the o-rings would not be replaced every time the cartridge is replaced.

Regarding claims 49 and 55, Guichaoua teaches the cartridge of claims 42 and 50 but does not teach a portion of the second tube is a cam surface. Reid teaches a portion of the outside surface of a second tube (134) is a cam surface (fig. 3-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the cam surface as taught by Reid because the upper outer surface (141) of the tube (134) acts as a cam surface for engaging the valve piston (18) that acts to open and close the valve (col. 8, lines 38-47).

Regarding claim 72, Guichaoua teaches the system of claim 70 but does not teach at least one sealing engagement of the second tube and the vent housing occurring distal to the at least one sealing engagement of the first tube and the outlet housing relative to the water treatment cartridge housing. Reid teaches at least one sealing engagement (threading) of the second tube (132) and the vent housing (58) occurs distal to at least one sealing engagement (with o-ring 33) of the first tube (134) and the outlet housing (14) relative to the water treatment cartridge housing (122) (fig. 2 and 3). It would have been obvious to one of ordinary skill in the art at the time the

invention was made to use the sealing engagement of Reid because having more threading provides are more secure and tighter seal.

7. Claim 56 is rejected under 35 U.S.C. 103(a) as being unpatentable over Guichaoua (836) in view of Reid U.S. Patent No. 6,274,038.

Regarding claim 56, Guichaoua teaches the water treatment cartridge but does not disclose that the treatment media comprises a radial flow carbon block. Reid (038) discloses a cartridge (80) that includes a treatment media (75) comprising a radial flow carbon block (fig. 1, col. 3, line 66 – col. 4, line 5). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the filter media as taught by Reid (038) with the cartridge as taught by Guichaoua because the carbon block reduces the concentration of volatile organic contaminants, chemicals, parasites, sediment, biocide, and consequent suspended and dissolved materials including killed microorganisms and pathogens (col. 3, line 66 – col. 4, line 5).

8. Claims 44, 47, 50-52, 54, 56, 57, 59, 60, 63-66 and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaaki '336.

Regarding claim 44, Masaaki teaches the outside surfaces of the first and second tubes are sealing surfaces but does not teach a portion of the inside surfaces of the first or second tube being sealing surfaces. Modifying the device to have the sealing surface on the outside surface instead of the inside surface is not patentable because [S]hifting the position of an element is unpatentable if shifting the position of the element would not modify the operation of the device, *In re Japikse*, 86 USPQ 70 (1950).

Regarding claims 50 and 51, Masaaki teaches a liquid treatment cartridge capable of sealingly and releasably engaging a liquid treatment device, the cartridge comprising: a housing (18), an inlet (13), an outlet (14) and a treatment media (15) in fluid communication with the inlet and the outlet, a first tube (the portion containing o-ring (24)) comprising an inside surface, an outside surface a proximal end and a distal end, wherein the outside surface comprises a sealing surface (o-ring (24)), a second tube (the portion containing (21) comprising an inside surface, an outside surface, a proximal end, and a distal end, wherein the first tube extends from the housing and surrounds the outlet port such that said inside surface of said first tube forms a treated fluid passageway and the second tube surrounds the first tube forming a gap disposed between said inlet and said outlet ports (fig. 1). Masaaki teaches the outside surface of the second tube is a sealing surface (threading (21)) but does not teach the inside surface of the second tube being a sealing surface. Modifying the cartridge to have the sealing surface on the inside surface instead of the outside surface is not patentable because [S]hifting the position of an element is unpatentable if shifting the position of the element would not modify the operation of the device, *In re Japikse*, 86 USPQ 70 (1950).

Regarding claims 52 and 56, Masaaki further teaches the most distal sealing surface of the second tube extends from the cartridge a greater distance than the most distal sealing surface of the first tube (fig. 1); the treatment media comprises a carbon block (paragraph 26).

Regarding claim 57, Masaaki teaches a liquid treatment cartridge capable of sealingly and releasably engaging a liquid treatment device, the cartridge comprising: a housing (18), an inlet (13), an outlet (14) and a treatment media (15) in fluid communication with the inlet and the outlet, a first tube (the portion containing o-ring (24)) comprising an inside surface, an outside surface a proximal end and a distal end, a second tube (the portion containing (21)) comprising an inside surface, an outside surface, a proximal end, and a distal end, wherein the first tube extends from the housing and surrounds the outlet port such that said inside surface of the first tube forms a treated liquid passageway wherein the second tube surrounds the first tube forming an annular gap between the first and second tubes, and wherein the sealing surfaces of the first and second tubes extend from the water treatment cartridge housing about the same distance (fig. 1). Masaaki teaches the outside surface of the second tube is a sealing surface (21) and the outside surface of the first tube is a sealing surface (24) but does not teach the inside surfaces of the first and second tubes being a sealing surface. Modifying the cartridge to have the sealing surface on the inside surface instead of the outside surface is not patentable because [S]hifting the position of an element is unpatentable if shifting the position of the element would not modify the operation of the device, *In re Japikse*, 86 USPQ 70 (1950).

Regarding claims 47, 54 and 59, Masaaki teaches the cartridge but does not disclose the diameter of the inside surface of the second tube or the diameter of the outside surface of the first tube. [W]here the only difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device

having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device, *Gardner v. TEC Systems, Inc.*, 220 USPQ 777 (1984).

Regarding claim 60, Masaaki teaches a liquid treatment device for sealingly and releasably engaging a liquid treatment cartridge, the device comprising: a first housing comprising an inside surface, an outside surface, and a sealing surface, a second housing comprising an inside surface, an outside surface, and a sealing surface, an inlet (36), wherein the second housing surrounds the first housing to form a gap in the area between the outside surface of the first housing and the inside surface of the second housing and the sealing surfaces of the first and second housings, and wherein the gap is disposed between the inlet and the outlet passageway and is completely sealed to prevent liquid from flowing into the gap when the treatment device is sealingly engaged to a liquid treatment cartridge (fig. 2). Masaaki teaches the inside surface of the first and second housing is a sealing surface but does not teach the outside surface of the first and second housing being a sealing surface. Modifying the device to have the sealing surface on the outside surface instead of the inside surface is not patentable because [S]hifting the position of an element is unpatentable if shifting the position of the element would not modify the operation of the device, *In re Japikse*, 86 USPQ 70 (1950).

Regarding claims 63-65 and 73, Masaaki further teaches the device further comprising a pressure vessel (11), wherein the pressure vessel is sealingly fitted to the treatment device such that the pressure vessel is in untreated fluid communication with

Art Unit: 1723

the second housing and not with the first housing when the treatment cartridge is engaged to the treatment device (fig. 2); the pressure vessel is threadably fitted to the treatment device by (21) (fig. 2); the first and second housings are tubes (fig. 2); and the area between the outside surface of the first housing and the inside surface does not function as an untreated inlet passageway (fig. 2).

Regarding claim 66, Masaaki further teaches the water treatment device where the first and second housings are concentric but does not disclose the first housing extending a greater distance than the second housing. It would have been an obvious matter of design choice to one having ordinary skill in the art at the time the invention was made to extend the first housing at any distance farther than the second housing so long as a proper seal can be maintained between the device and a cartridge.

Regarding claim 68, Masaaki teaches the device having sealing surfaces but does not teach the sealing surfaces being o-rings. O-rings are well known in the filter art to seal passages and would have been obvious to one of ordinary skill in the art to use on the device.

9. Claims 62, 69, 70 and 72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaaki '336 in view of Guichaoua '836.

Regarding claim 69, Masaaki teaches a liquid treatment device capable of sealingly and releasably engaging a liquid treatment cartridge the cartridge comprising a first tube (the portion containing o-ring (24)) having an inside surface forming a first water treatment passageway and a second tube (the portion containing (21)) surrounding the first tube, the device comprising: an outlet housing engaging the first

Art Unit: 1723

tube of the cartridge the outlet housing comprising an inside surface and an outside surface, and comprising a sealing surface, a vent housing engaging the second tube of the cartridge, the vent housing comprising an inside surface and an outside surface, and comprising a sealing surface, an inlet (36), wherein a portion of the inside surface of the outlet housing forms and defines a second treated liquid outlet passageway in fluid communication with the first treated water passageway and wherein a portion the vent housing surrounds a portion of the outlet housing, wherein when the device is sealingly engaged to a cartridge a gap is disposed between the inlet and the outlet passageway and enclosed and sealed between the sealed engagement of the outlet housing and a first tube of the cartridge and the sealed engagement of the vent housing and a second tube of the cartridge such that liquid is prevented from flowing into the gap (fig. 2). Masaaki does not teach a portion of the outside surface of the outlet housing and a portion of the inside surface of the vent housing forming a vent.

Guichaoua teaches a fluid treatment device having a first housing (part of 1 adjacent 52) and a second housing (part of 1 adjacent 53) where a portion of the outside surface of the outlet housing and a portion of the inside surface of the vent housing forming a vent (7) (fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the vent as taught by Guichaoua because the gap provides automatic emptying of the device when the cartridge is removed (col. 4, lines 27-33).

Regarding claim 70, Masaaki teaches a liquid treatment system comprising: a water treatment cartridge capable of sealingly and releasably engaging a liquid

Art Unit: 1723

treatment device, the cartridge comprising: a housing (18), an inlet (13), an outlet (14), and a treatment media (15) the media in fluid communication with the inlet and the outlet, a first tube (the portion containing o-ring (24)) comprising an inside and outside surface, a proximal and distal end and a sealing surface (o-ring (2452)), a second tube (the portion containing (21)) comprising an inside and outside surface, a proximal and distal end and a sealing surface (21), wherein the first tube extends from the housing and surrounds the outlet port and the second tube surrounds the first tube; a liquid treatment device for sealingly and releasably engaging the cartridge, the device comprising: an outlet housing (the portion adjacent (24)) having an inside and outside surface and a sealing surface, and a vent housing (the portion adjacent (21)) having an inside and outside surface and sealing surface, wherein a portion of the inside surface of the outlet housing forms and defines a treated liquid outlet passageway wherein the first tube sealingly engages the outlet housing to form a first seal and the second tube sealingly engages the vent housing to form a second seal and such that the inside surface of the first tube and the inside surface of the outlet housing are in fluid communication, and such that the outside surface of the first tube and the inside surface of the vent housing are in fluid communication, wherein a gap is disposed between the inlet and the outlet passageway and sealingly enclosed between the first and second seals such that the first and second seals do not permit a liquid to flow into the gap from the inlet to the outlet passageway (fig. 1, 2). Masaaki does not teach a portion of the outside surface of the outlet housing and a portion of the inside surface of the vent housing forming a vent. Guichaoua teaches a fluid treatment device having a first

housing (part of 1 adjacent 52) and a second housing (part of 1 adjacent 53) where a portion of the outside surface of the outlet housing and a portion of the inside surface of the vent housing forming a vent (7) (fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the vent as taught by Guichaoua because the gap provides automatic emptying of the device when the cartridge is removed (col. 4, lines 27-33).

Regarding claim 72, Masaaki further teaches at least one sealing engagement of the second tube and the vent housing occurs distal to at least one sealing engagement of said first tube and said outlet housing, relative to the water treatment cartridge (fig. 2).

Regarding claim 62, Masaaki teaches the treatment device of claim 60 but does not teach a portion of the outside surface of the outlet housing and a portion of the inside surface of the vent housing forming a vent. Guichaoua teaches a fluid treatment device having a first housing (part of 1 adjacent 52) and a second housing (part of 1 adjacent 53) where a portion of the outside surface of the outlet housing and a portion of the inside surface of the vent housing forming a vent (7) (fig. 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the vent as taught by Guichaoua because the gap provides automatic emptying of the device when the cartridge is removed (col. 4, lines 27-33).

10. Claims 46, 49, 53, 55 and 58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Masaaki '336 in view of Reid '332.

Regarding claims 46, 53 and 58, Masaaki teaches the cartridge of claims 42, 50 and 57 but does not teach the first and second tubes are without o-rings. Reid teaches

Art Unit: 1723

first (132) and second (134) tubes without o-rings (fig. 2-3). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have the o-rings be a part of the treatment device and not the cartridge so that the o-rings would not be replaced every time the cartridge is replaced.

Regarding claims 49 and 55, Masaaki teaches the cartridge of claims 42 and 50 but does not teach a portion of the outside surface of the second tube being a cam surface. Reid teaches a portion of the outside surface of a second tube (134) is a cam surface (fig. 3-4). It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the cam surface as taught by Reid because the upper outer surface (141) of the tube (134) acts as a cam surface for engaging the valve piston (18) that acts to open and close the valve (col. 8, lines 38-47).

11. Claim 71 is rejected under 35 U.S.C. 103(a) as being unpatentable over Masaaki '336 in view of Gundrum '334.

Masaaki teaches the treatment system where the outlet and vent housing having a sealing surface but does not disclose the sealing surface being an o-ring oriented around the outside surface of the outlet housing and the vent housing having an o-ring oriented around the outside surface of the vent housing. Gundrum teaches a housing (28) with a sealing surface of an o-ring (43) oriented around the outside surface of the housing (fig. 2). It would have been obvious to one having ordinary skill in the art at the time the invention was made to use the o-ring of Gundrum in the system of Guichaoua because it is well known in the art that an o-ring provides a fluid tight seal.

Response to Arguments

Art Unit: 1723

12. Applicant's arguments filed 5/4/07 have been fully considered but they are not persuasive.

Regarding the first tube forming a treated liquid passageway and Guichaoua '836; the first tube (part containing (52)) forms a passageway in fluid communication with the inner surface of the filter media (4), which is the treated side of the filter media. The o-ring (52) provides a seal so the treated fluid does not leak into the gap (51) and therefore the tube is in contact with the treated fluid. The treated fluid will fill the space between the media and tube (10) until it reaches the level of the holes (101) where it will then drain out of the device. The first tube forms the treated fluid passageway between the media and the tube (10).

13. Applicant's arguments with respect to claims 42, 50, 57, 60, 69 and 70 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Benjamin Kurtz whose telephone number is 571-272-8211. The examiner can normally be reached on Monday through Friday 8:00am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Sample can be reached on 571-272-1376. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1723

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Benjamin Kurtz
Patent Examiner 1723
6/27/07

A handwritten signature in cursive script, appearing to read 'Benjamin Kurtz'.

Primary Examiner